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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,946	03/19/2002	Kyung-geun Lee	1293.1320	6311

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EXAMINER
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GIESY, ADAM

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/099,946

Applicant(s)

LEE ET AL.

Examiner

Adam R. Giesy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2002.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-45 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 19 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/13/04 & 3/19/02.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6, 7, 10, 15-25, and 28-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al. (Ito - US Pat. No. 5,881,032).

Regarding claim 1, Ito discloses an optical disc comprising: first and second recording layers on which data are recordable and/or reproducible, the first and second recording layers having a same track spiral direction (see Figures 13A and 13B – each figure depicts a layer of the optical disc and both figures spiral in the same direction), wherein, on the first recording layer, a physical address of smallest recording units increases or decreases together with an address of the smallest recording units recorded while recording on the disc, from an inner radius of the first recording layer to an outer radius of the first recording layer (see Figure 13D – the quality of having the recorded address increase as the physical address increases is inherent to the figure, as the recording address would inherently increase in the direction of reproduction [from inner to outer radius], as would the physical address).

Regarding claim 2, Ito discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above, and further that on the second recording layer, the physical address increases or decreases together with the recorded address from an inner radius of the second recording layer to an outer radius of the second recording layer (see Figure 13D - the quality of having the

recorded address increase as the physical address increases is inherent to the figure, as the recording address would inherently increase in the direction of reproduction [from inner to outer radius], as would the physical address).

Regarding claim 3, Ito discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above and further that on the second recording layer, the recorded address decreases as the physical address increases and increases as the physical address decreases, from an inner radius of the second recording layer to an outer radius of the second recording layer (see Figure 3 – this clearly shows the recorded address of the second layer [labeled “SECTOR ADDRESS IN L2”] decreasing as the recorded address of the first layer [labeled “SECTOR ADDRESS IN L1”] increases).

Regarding claim 6, Ito discloses an optical disc comprising: first and second recording layers on which data are recordable and/or reproducible, the first and second recording layers having the same track spiral direction (see Figures 13A and 13B – each figure depicts a layer of the optical disc and both figures spiral in the same direction), wherein, on the first recording layer, an address of smallest recording units recorded while recording the disc decreases as a physical address of the smallest recording units increases and increases as the physical address decreases, from an inner radius of the first recording layer to an outer radius of the first recording layer (see column 5, lines 23-32 – Ito provides for the recorded address of either layer to increase or decrease as the physical address increases).

Regarding claim 7, Ito discloses all of the limitations of claim 6 as discussed in the claim 6 rejection above and further that on the second recording layer, the physical address increases or decreases together with the recorded address from an inner radius of the second recording layer

to an outer radius of the second recording layer (see Figure 13D - the quality of having the recorded address increase as the physical address increases is inherent to the figure, as the recording address would inherently increase in the direction of reproduction [from inner to outer radius], as would the physical address).

Regarding claim 10, Ito discloses all of the limitations of claim 6 as discussed in the claim 6 rejection above and further that on the second recording layer, the recorded address decreases as the physical address increases and increases as the physical address decreases, from an inner radius of the second recording layer to an outer radius of the second recording layer (see Figure 3 – this clearly shows the recorded address of the second layer [labeled “SECTOR ADDRESS IN L2”] decreasing as the recorded address of the first layer [labeled “SECTOR ADDRESS IN L1”] increases).

Regarding claim 15, Ito discloses an optical disc comprising: first and second recording layers on which data are recordable and/or reproducible, the first and second recording layers having opposite track spiral directions (see Figures 1A and 1B – each figure depicts a layer of the optical disc and both figures spiral in opposite directions), wherein a physical address of smallest recording units increases or decreases together with an address of the smallest recording units recorded during recording on the disc (see Figure 1D – the quality of having the recorded address increase as the physical address increases is inherent to the figure, as the recording address would inherently increase in the direction of reproduction [from inner to outer radius], as would the physical address).

Regarding claim 16, Ito discloses all of the limitations of claim 15 as discussed in the claim 15 rejection above and further that the physical address increases or decreases together with the recorded address on the second recording layer (see Figure 1D).

Regarding claim 17, Ito discloses all of the limitations of claim 15 as discussed in the claim 15 rejection above and further that the recorded address decreases as the physical address increases and increases as the physical address decreases on the second recording layer (see Figure 3 – this clearly shows the recorded address of the second layer [labeled “SECTOR ADDRESS IN L2”] decreasing as the recorded address of the first layer [labeled “SECTOR ADDRESS IN L1”] increases).

Regarding claim 18, Ito discloses all of the limitations of claim 15 as discussed in the claim 15 rejection above and further that on the first recording layer, the physical address and the recorded address increase or decrease from an inner radius of the first recording layer to an outer radius of the first recording layer; and on the second recording layer, the physical address and the recorded address increase or decrease from an outer radius of the second recording layer to an inner radius of the second recording layer (see Figure 1D – the layers are recorded in different directions and show the first layer as increasing in physical address from the inner radius to the outer radius, while the second layer is increasing in recorded address from the outer radius to the inner radius).

Regarding claim 19, Ito discloses all of the limitations of claim 15 as discussed in the claim 15 rejection above and further that on the first recording layer, the physical address and the recorded address increase or decrease from an outer radius of the first recording layer to an inner radius of the first recording layer; and on the second recording layer, the physical address and the

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recorded address increase or decrease from an inner radius of the second recording layer to an outer radius of the second recording layer (see Figure 1D and column 5, lines 23-32 – the first and second layer are recorded in opposite directions. Column 5, lines 23-32 points out that the layer can go from one circumference to another).

Regarding claim 20, Ito discloses an optical disc comprising: first and second recording layers on which data are recordable and/or reproducible, the first and second recording layers having opposite track spiral directions (see Figures 1A and 1B – each figure depicts a layer of the optical disc and both figures spiral in opposite directions), wherein, on the first recording layer, an address of smallest recording units recorded while recording the disc decreases as a physical address of the smallest recording units increases and increases as the physical address decreases (see column 5, lines 23-32 – Ito provides for the recorded address of either layer to increase or decrease as the physical address increases).

Regarding claim 21, Ito discloses all of the limitations of claim 20 as discussed in the claim 20 rejection above and further that on the second recording layer, the physical address increases or decreases together with the recorded address (see Figure 1D).

Regarding claim 22, Ito discloses all of the limitations of claim 20 as discussed in the claim 20 rejection above and further that on the second recording layer, the recorded address decreases as the physical address increases and increases as the physical address decreases (see column 5, lines 23-32 – Ito provides for the recorded address of either layer to increase or decrease as the physical address increases).

Regarding claim 23, Ito discloses all of the limitations of claim 20 as discussed in the claim 20 rejection above and further that on the first recording layer, the physical address and the

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recorded address increase or decrease from an inner radius of the first recording layer to an outer radius of the first recording layer, and on the second recording layer, the physical address and the recorded address increase or decrease from an outer radius of the second recording layer to an inner radius of the second recording layer (see Figure 1D – the layers are recorded in different directions and show the first layer as increasing in physical address from the inner radius to the outer radius, while the second layer is increasing in recorded address from the outer radius to the inner radius).

Regarding claim 24, Ito discloses all of the limitations of claim 20 as discussed in the claim 20 rejection above and further that on the first recording layer, the physical address and the recorded address increase or decrease from an outer radius of the first recording layer to an inner radius of the first recording layer, and on the second recording layer, the physical address and the recorded address increase or decrease from an inner radius of the second recording layer to an outer radius of the second recording layer (see Figure 1D and column 5, lines 23-32 – the first and second layer are recorded in opposite directions. Column 5, lines 23-32 points out that the layer can go from one circumference to another).

Regarding claim 25, Ito discloses a method of identifying a recording layer on an optical disc comprising first and second recording layers on which data are recordable and/or reproducible, the first and second recording layers having a same track spiral direction (see Figures 13A and 13B – each figure depicts a layer of the optical disc and both figures spiral in the same direction), the method comprising: assigning first smallest recording units on the first recording layer a physical address which is different from a physical address of second smallest



recording units on the second recording layer (see column 5, lines 33-36 and also column 4, lines 47-57).

Regarding claim 28, Ito discloses an optical disc comprising two or more recording layers on which data are recordable and/or reproducible, wherein a physical address of smallest recording units and an address of the smallest recording units recorded during recording data on the disc increase or decrease on the two or more recording layers (column 4, lines 47-57).

Regarding claim 29, Ito discloses all of the limitations of claim 28 as discussed in the claim 28 rejection above and further that the physical address and the recorded address increase or decrease in different ways for each of the two or more recording layers (column 5, lines 23-32).

Regarding claim 30, Ito discloses all of the limitations of claim 28 as discussed in the claim 28 rejection above and further that the two or more recording layers have the same track spiral direction (see Figures 13A and 13B).

Regarding claim 31, Ito discloses all of the limitations of claim 28 as discussed in the claim 28 rejection above and further that the two or more recording layers alternately have opposite track spiral directions (see Figures 1A and 1B).

Regarding claim 32, Ito discloses a method of recording data on an optical disc having first and second recording layers on which data are recordable and/or reproducible, the method comprising: recording addresses in respective front portions of smallest recording units of the first and second recording layers wherein: the recorded addresses and corresponding physical addresses of the first recording layer vary together according to a direction of travel on the disc;

and the recorded addresses and corresponding physical addresses of the second recording layer vary together according to the direction of travel (see Figure 4).

Regarding claim 33, Ito discloses all of the limitations of claim 32 as discussed in the claim 32 rejection above and further that the recorded and physical addresses of the first recording layer and the recorded and physical addresses of the second recording layer all increase or all decrease together (see Figure 3).

Regarding claim 34, Ito discloses all of the limitations of claim 32 as discussed in the claim 32 rejection above and further that the recorded and physical addresses of the first recording layer increase together; the recorded and physical addresses of the second recording layer decrease and together (see Figure 3).

Regarding claim 35, Ito discloses all of the limitations of claim 32 as discussed in the claim 32 rejection above and further that the recorded and physical addresses of the first recording layer decrease together; the recorded and physical addresses of the second recording layer increase and together (see Figure 13D - the quality of having the recorded address increase as the physical address increases is inherent to the figure, as the recording address would inherently increase in the direction of reproduction, as would the physical address)..

Regarding claim 36, Ito discloses a method of recording data on an optical disc having first and second recording layers on which data are recordable and/or reproducible by a recording head, the method comprising: recording addresses in respective front portions of smallest recording units of the first and second recording layers wherein: the recorded addresses and the physical addresses of one of the first and second recording layers vary according to a direction of travel along the disc (see Figure 4), and the recorded addresses and the physical addresses of the

other of the first and second recording layers vary oppositely according to the direction of travel (also see Figure 4).

Regarding claim 37, Ito discloses all of the limitations of claim 36 as discussed in the claim 36 rejection above and further that the recorded and physical addresses of the first recording layer vary together, and the recorded and physical addresses of the second recording layer vary oppositely (see Figure 3 – this clearly shows the recorded address of the second layer [labeled “SECTOR ADDRESS IN L2”] decreasing as the recorded address of the first layer [labeled “SECTOR ADDRESS IN L1”] increases).

Regarding claim 38, Ito discloses all of the limitations of claim 36 as discussed in the claim 36 rejection above and further that the recorded and physical addresses of the second recording layer vary together, and the recorded and physical addresses of the first recording layer vary oppositely (see Figure 13D - the quality of having the recorded address increase as the physical address increases is inherent to the figure, as the recording address would inherently increase in the direction of reproduction, as would the physical address).

Regarding claim 39, Ito discloses a method of recording data on an optical disc having first and second recording layers on which data are recordable and/or reproducible, the method comprising: recording addresses in respective front portions of smallest recording units of the first and second recording layers wherein: the recorded addresses and the physical addresses of one of the first and second recording layers vary oppositely according to a direction of travel along the disc, and the recorded addresses and the physical addresses of the other of the first and second recording layers vary oppositely according to the direction of travel along the disc (see Figure 4).

Regarding claim 40, Ito discloses all of the limitations of claim 32 as discussed in the claim 32 rejection above and further that the first and second recording layers have a same track spiral direction (see Figures 13A and 13B).

Regarding claim 41, Ito discloses all of the limitations of claim 36 as discussed in the claim 36 rejection above and further that the first and second recording layers have a same track spiral direction (see Figures 13A and 13B).

Regarding claim 42, Ito discloses all of the limitations of claim 39 as discussed in the claim 39 rejection above and further that the first and second recording layers have a same track spiral direction (see Figures 13A and 13B).

Regarding claim 43, Ito discloses all of the limitations of claim 32 as discussed in the claim 32 rejection above and further that the first and second recording layers have an opposite track spiral direction (see Figures 1A and 1B).

Regarding claim 44, Ito discloses all of the limitations of claim 36 as discussed in the claim 36 rejection above and further that the first and second recording layers have an opposite track spiral direction (see Figures 1A and 1B).

Regarding claim 45, Ito discloses all of the limitations of claim 39 as discussed in the claim 39 rejection above and further that the first and second recording layers have an opposite track spiral direction (see Figures 1A and 1B).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 5, 8, 9, 11-14, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (Ito - US Pat. No. 5,881,032) in view of Ogawa et al. (Ogawa - US Pat. No. 6,850,469 B2).

Regarding claims 4, 8, 11, 13, and 26, Ito discloses all of the limitations of claims 1, 6, 7, 10, and 25, respectively, as discussed in the claim 1, 6, 7, 10, and 25 rejections above. Ito does not disclose that the physical address is recorded in a form of pits at a front portion of each smallest recording unit.

Ogawa discloses a multi-layer optical medium data recorder that uses pits to record address information (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the use of pits to store address information as disclosed by Ogawa with the optical disc as disclosed by Ito, the motivation being in order to more quickly and accurately find data on the optical disc.

Regarding claims 5, 9, 12, 14, and 27, Ito discloses all of the limitations of claim 1, 6, 7, 10, and 25, respectively, as discussed in the claim 1, 6, 7, 10, and 25 rejections above. Ito does not disclose that the physical address is recorded on a track in the form of a wobble.

Ogawa discloses a multi-layer optical medium data recorder that uses a wobble track to record address information (column 4, lines 56-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the use of a wobble track for storing address information as disclosed by

Ogawa with the optical disc as disclosed by Ito, the motivation being in order to more quickly and accurately find data on the optical disc.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Ono et al. (US Pat. No. 6,002,655) discloses an optical disc apparatus that can access multiple layers and focuses on the layout of the recorded discs.

b. Ono et al. (US Pat. No. 6,643,231 B2) discloses an optical disc apparatus that includes recording on discs with multiple layers.

c. Kuroda (US Pat. No. 6,370,091 B1) discloses a multiple layer disc recording device.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARG 5/12/2005

  
W. R. YOUNG  
PRIMARY EXAMINER